

~ Railway serious incident that the door opened while the train was running ~

Railway operator : Nishi-Nippon Railroad Co., Ltd.  
Serious incident type : Vehicle damage  
Date and time : At about 16:49, May 15, 2018  
Location : At Shirakibaru station, Tenjin Omuta Line, Onojo City, Fukuoka Prefecture.

#### <SUMMARY>

On May 15, 2018, while the inbound Local 2152 train, composed of 4 vehicles and started from Daizenji station bound for Nishitetsu Fukuoka, Tenjin, station, of Tenjin Omuta Line, Nishi-Nippon Railroad Co., Ltd., was departing from Kasugabaru station, the passenger standing on the platform talked to the conductor of the train about the door, something unclear. After the conductor finished to watching the platform while departing, he went to check the doors of each vehicle, and found that the rear door of the double doors in left side of the rear most of the 3rd vehicle had been opening by about 40 cm. Therefore, he locked the concerned door when the train stopped at the next station, *i.e.*, Zasshonokuma station. The train was operated to the next station, *i.e.*, Ijiri station, and the train operation was cancelled.

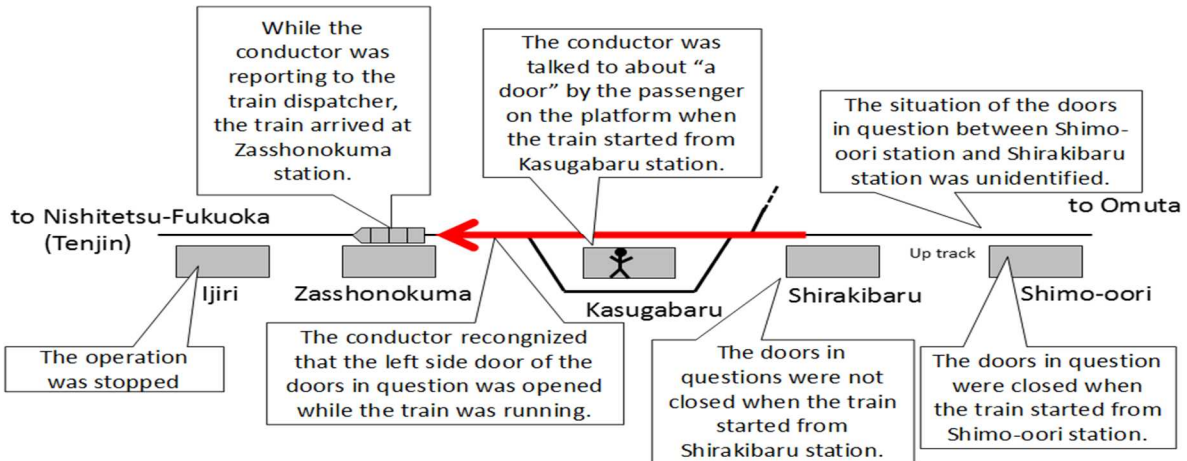
There were about 250 passengers and 3 train crews, *i.e.*, the driver, the conductor and the assistant station master for handling operation, but no one was injured.

Here, it was found out, in the investigation implemented after the occurrence of the concerned serious incident, that the concerned door had already been opening when the train departed from Shirakibaru station.

#### <STATUS OF THE OCCURRENCE OF THE OPENNING DOOR INCIDENT>

It is probable that the process of the occurrence of the concerned serious incident was as follows.

- (1) When the train departed from Shirakibaru station, the concerned door became in the status that it had not been closed certainly.
- (2) While the train was running between Shirakibaru station and Kasugabaru station, the concerned door became in the status to repeat opening and closing actions responding the jolts of the train and sometimes in the status as fully opened.
- (3) When the train was departing from Kasugabaru station, the concerned conductor was talked by the passenger on the platform about the door as it was not clear, then the concerned conductor checked the doors while the train was running, and found that the rear door of the concerned door was opening by about 40 cm. Here, the concerned door could not be move by hand at that moment.
- (4) After the train arrived at Zasshonokuma station, the concerned door was locked.
- (5) The operation of the concerned train was cancelled at Ijiri station.



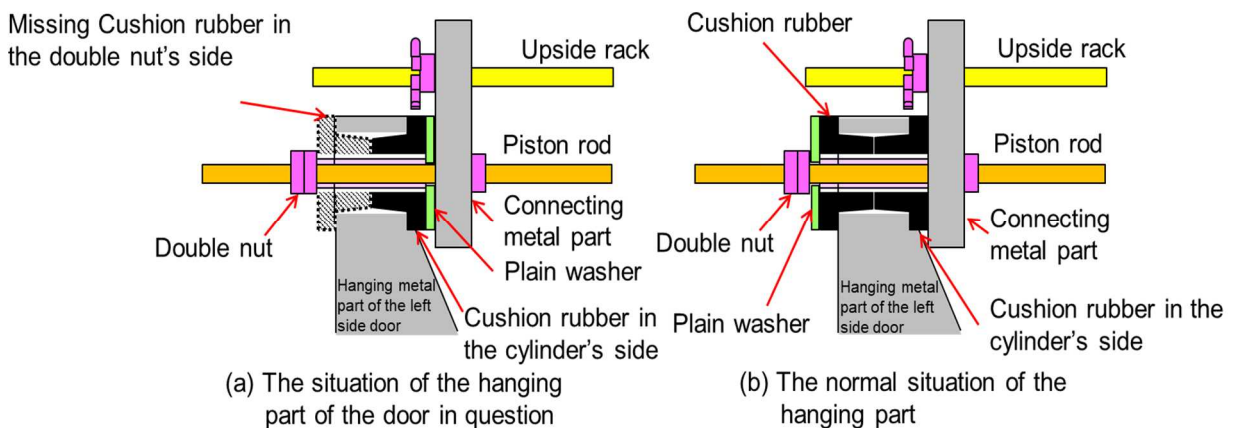
<PROBABLE CAUSES>

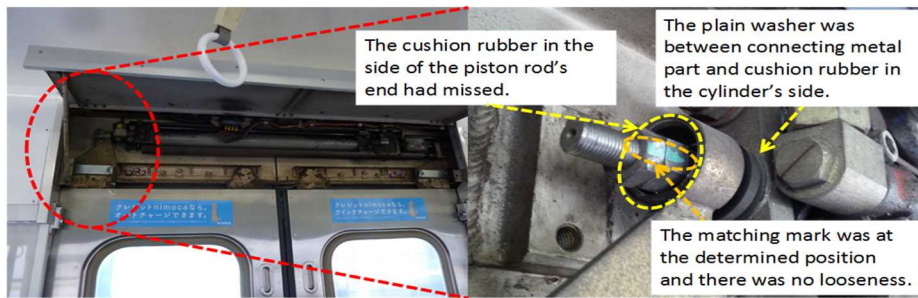
It is probable that the concerned serious incident was caused as the door did not close certainly when the closing door operation was implemented, because the hanging device of the door and the piston rod transferring the force to open and close operation of the doors were disconnected and became not to work as linking each other as the buffer rubber of the hanging part for a door in the double door of the vehicle had fallen away, in addition, the train operation was continued in the status that the opening door could not be detected.

It is probable that the buffer rubber in the hanging part of the door had fallen away in the following process, *i.e.*, the nut of the piston rod and the buffer rubber had been in the status as contacted directly with each other due to mistaking the attached position of the plain washer in the fastening works of the hanging parts in the important parts inspection of the vehicle, the doors had been operated to open and close actions repeatedly in this status, then, the nut continued to cut into the hole part of the buffer rubber to cause the removal of the buffer rubber.

It is probable that the situation of the opening door could not be detected because the opened door could not be detected by the door control switch, as the door was in the opening status even though the piston rod was in the close position, because the piston rod and the door had become not to work as linking with each other due to the fallen away buffer rubber.

Notes : It is probable that the mistake of the attached position of the plain washer could not be found in the visual inspection of the concerned door in the monthly inspections implemented after the important parts inspection.





## <MEASURES TO PREVENT THE RECURRENCE>

### (1) Measures on the inspection of doors

As for the works using the common parts and the works having a possibility to mistake the attached position, etc., such as the fastening works of the hanging parts of the concerned door, it is considered that it is effective to implement synthetically the measures for the improvement conformed to the contents and the environment of the works, by studying the following measures : to secure the certainty of the works by making the procedures of the works clear and implementing educations and noticing them to the workers, to improve the contents of the works that would be hard to cause mistakes, *i.e.*, to contrive shapes or colors of the parts, to set the parts to be assembled beforehand, etc., to improve the ability to detect the abnormal situation when the results of the works are checked, *i.e.*, the double check implemented by the workers and the checking staffs independently, or the preparation of the check list, etc.

In addition, it is considered that it is effective to implement the reviews of the check items according to the necessity, including the attached position of the important parts as well as the check marks, by investigating thoroughly again on the items to be inspected mandatory, even in the visual inspection of the doors in the monthly inspection.

### (2) Items on the actions of the traincrews and the train dispatchers

The incident that the door opens in the running train is an emergent situation as there is a fear that passengers may fall off. Therefore, it is probable that it was necessary for the concerned conductor to implement measures to stop the train immediately after he noticed the incident of the opening door. In addition, it is probable that it was necessary to investigate the existence of the fallen person promptly, when the incident of the opening door had occurred.

Furthermore, when the train dispatcher received the report from the train crews on the incident that the door opened in the running train, it is considered that it is required for the train dispatcher to instruct the train crews to stop the train at first, to ask the reports on the status of the taken measures on the confirmation of the existence of the fallen person, and to implement the proper measures.

Based on these situations, it is considered that it is effective for Nishi-Nippon Railroad Co., Ltd., to implement the prompt and the certain measures in the occurrence of the similar incident, to make clear the procedures of the measures against the occurrence of the incident of the opening door, in the regulation of the handling abnormal situation, and to apply them in the educational training of the train crews and the train dispatchers.